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## NOTICE OF ALLOWANCE AND FEE(S) DUE

45209 7590 03/06/2009

INTEL/BSTZ  
BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP  
1279 OAKMEAD PARKWAY  
SUNNYVALE, CA 94085-4040

EXAMINER

REZA, MOHAMMAD W

ART UNIT

PAPER NUMBER

2436

DATE MAILED: 03/06/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/686,410

10/14/2003

Eshwari P. Komarla

42P17160

6852

TITLE OF INVENTION: DATA SECURITY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/08/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

45209 7590 03/06/2009

**INTEL/BSTZ**  
**BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP**  
**1279 OAKMEAD PARKWAY**  
**SUNNYVALE, CA 94085-4040**

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,410	10/14/2003	Eshwari P. Komarla	42P17160	6852

TITLE OF INVENTION: DATA SECURITY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/08/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
REZA, MOHAMMAD W	2436	713-193000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,410	10/14/2003	Eshwari P. Komarla	42P17160	6852
45209	7590	03/06/2009	EXAMINER	
INTEL/BSTZ BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP 1279 OAKMEAD PARKWAY SUNNYVALE, CA 94085-4040			REZA, MOHAMMAD W	
			ART UNIT	PAPER NUMBER
			2436	
DATE MAILED: 03/06/2009				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 671 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 671 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/686,410	KOMARLA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	MOHAMMAD W. REZA	2436	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02/02/2009.
2. ☒ The allowed claim(s) is/are 1-28, and 30; renumbered as 1-29.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date <u>11/10/08, 02/02/09</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|--|---|

/Mohammad W Reza/  
Examiner, Art Unit 2436

### DETAILED ACTION

1. This office correspondence is response to the applicant's after response filed on 02/02/2009.

### EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Applicant's representative, Linda S. Zachariah (Reg. No. 48,057), and examiner arranged a telephone interview on July 15, 2008 and the interview agenda was to reach an agreement of allowance of claims 19-27 with examiner amendment that would make to these claims as follows:

In the claims:

Claim 19 has been rewritten as follows:

19. (Currently Amended) A ~~tangible~~ machine-readable storage memory medium having stored therein instructions that when executed by a machine result in the following:

storing encrypted metadata for determining a configuration of a redundant array of independent disks (RAID) storage;

receiving a request to write data to one or more locations in the RAID storage;

encrypting, based upon [[the]] at least one key, one or more respective portions of the write data to generate one or more respective portions of encrypted write data to be stored in the one or more locations of the RAID storage

generating, based upon the one or more respective portions of the encrypted write data, check data to be stored in the RAID storage; and selecting the one or more locations in the RAID storage for storing the one or more respective portions of the encrypted write data by translating the one or more locations specified in the request into one or more physical or logical locations in the RAID storage based at least upon the stored encrypted metadata so as to permit the one or more respective portions of the encrypted write data to be distributed among two or more storage devices comprised in the RAID storage.

Art Unit: 2436

Claim 20 has been rewritten as follows:

20. (Currently Amended) The ~~tangible~~ machine-readable storage memory medium of claim 19, wherein:

the check data comprises one of parity data and a copy of the encrypted write data.

Claim 21 has been rewritten as follows:

21. (Currently Amended) The ~~tangible~~ machine-readable storage memory medium of claim 19, wherein the instructions when executed by the machine also result in:  
storing the at least one key in memory; and in response to an attempt to tamper with the at least one key, erasing the at least one key.

Claim 22 has been rewritten as follows:

22. (Currently Amended) The ~~tangible~~ machine-readable storage memory medium of claim 19, wherein the instructions when executed by the machine also result in:

determining, based upon one or more credentials, whether to permit execution of one or more operations involving the RAID storage.

Claim 23 has been rewritten as follows:

23. (Currently Amended) A ~~tangible~~ machine-readable storage memory medium having stored therein instructions that when executed by a machine result in the following:

storing encrypted metadata for determining a configuration of a redundant array of independent disks (RAID) storage;

receiving a request to retrieve requested data from one or more locations in the RAID storage,

translating the one or more locations specified in the request into one or more physical or logical locations in the RAID storage based at least upon the stored encrypted metadata;

retrieving one or more respective portions of encrypted data from the one or more translated locations in [[a]] the RAID storage and

decrypting, the one or more respective portions of the encrypted read data retrieved from the storage based upon at least one key to generate one or more respective portions of read data.

Claim 24 has been rewritten as follows:

24. (Currently Amended) The ~~tangible~~ machine-readable storage memory medium of claim 23, wherein the instructions when executed by the machine also result in:

prior to the decrypting of the one or more respective portions of the encrypted data, determining, based upon one or more credentials, whether the request is authorized.

Claim 25 has been rewritten as follows:

Art Unit: 2436

25. (Currently Amended) The ~~tangible~~ machine-readable storage memory medium of claim 24, wherein the instructions when executed by the machine also result in: generating the at least one key based upon at least one of One or more tokens and one or more passwords.

Claim 26 has been rewritten as follows:

26. (Currently Amended) The ~~tangible~~ machine-readable storage memory medium of claim 23, wherein~~[[the]]~~ the instructions when executed by the machine also result in encrypting ~~[[the]]~~ metadata to generate the encrypted metadata based upon the at least one key.

Claim 27 has been rewritten as follows:

27. (Currently Amended) The ~~tangible~~ machine-readable storage memory medium of claim 26, wherein:

the metadata comprises partition information.

## **Allowable Subject Matter**

3. Claims 1-28, and 30 are allowed. The following is an examiner's statement of reasons for allowance: In interpreting the claims, in light of the Specification and the applicant's amendments filed on 04/09/2008, the Examiner finds the claimed invention to be patentably distinct from the prior art of record.

4. Kashima et al (US patent 5,485,598) is concerned with a RAID system utilizing separate cache memories for the host system and the check data. He discloses generating, based upon the one or more respective portions of the encrypted write data, check data to be stored in the RAID storage, and selecting the one or more locations so as to permit the one or more respective portions of the encrypted write data to be distributed among two or more storage devices comprised in the RAID storage.

Art Unit: 2436

5. Murthy et al (US patent publication 20030084290) is directed to a distributed security architecture. He is concerned with encrypting, based upon at least one key, one or more respective portions of write data to generate one or more respective portions of encrypted write data to be stored in the one or more locations.

6. However the totality of each element and/or step in claims 1, 5, 10, 19, 23, and 28 are not alluded to in the combined art of Kashima and Murthy. Their teachings either individually or in combination failed to teach or suggest all the limitations of these independent claims. More specifically, the combination of Kashima and Murthy does not teach or suggest "storing encrypted metadata for determining a configuration of redundant array of independent disks (RAID) storage; receiving a request to write data to one or more locations "n the RAID storage" as recited in claim 1. Similarly, the combination of Kashima and Murthy does not teach or suggest "selecting the one or more locations in the RAID storage for storing the one or more respective portions of the encrypted write data by translating the one or more locations specified in the request into one or more physical or logical locations in the RAID storage encrypted metadata" as recited in claim 1. Accordingly, claims 1, 5, 10, 19, 23, and 28 is allowable over the combination of Kashima and Murthy. So, Claims 1-28, and 30 are allowable by virtue of their dependency upon claim 1, 5, 10, 19, 23, and 28 and also due to additional limitations recited in these claims. Therefore, for the foregoing reasons, examiner withdraws of the rejection of claims 1-28, and 30 under 35 USC §103(a) as being obvious over Kashima in view of Murthy.



Art Unit: 2436

6. However, the prior art of record fails to teach or suggest some of the steps of the present claim invention. Examiner performed an updated search and unable to find any prior art to disclose all the steps mentioned in the independent claims.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. Examiner considers the newly submitted IDS (dated 11/10/2009, and 02/02/2009). However, the claims are still allowable over the cited prior arts.

### **Conclusion**

9. Claims 1-28, and 30 are patentable.

10. Claims 29, and 31-33 are cancelled.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad w. Reza whose telephone number is 571-272-6590. The examiner can normally be reached on M-F (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MOAZZAMI NASSER G can be reached on (571)272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

Art Unit: 2436

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Nasser G Moazzami/

Mohammad Wasim Reza

Supervisory Patent Examiner, Art Unit 2136

AU 2136